REMARKS

Entry of this amendment and reconsideration of this application as so amended is requested. By this amendment Applicants have amended claims 20, 22, 24, 25, 29, 31, 32, 36-40, 43 and 44 for clarity. Claims 20-44 are in the case.

1. The Examiner approved the proposed substitute sheets of the drawing, and requested that proper corrected drawing figures be provided. Applicants have provided such proper corrected drawing figures as Attachment 1 hereto.

2. The Examiner objected to claims 24, 32, 37-40, 43 and 44 because of informalities. Applicants have amended claim 20 to recite "converting a portion of an optical signal from the DWDM multi-wavelength system at a particular wavelength to an electrical signal", and have amended claims 22, 24, 25, 29 and 31 to recite "a particular wavelength portion" relying upon "a portion . . . at a particular wavelength" in claim 20 as antecedent. Therefore the informality of claim 24 is corrected.

Applicants have amended claim 32 to recite "the moving means" (antecedent in claim 31) in place of "the driving means", and to recite "a control signal" in place of "the control signal". Therefore the informality of claim 32 is corrected.

Applicants submit that "means for combining" in claim 35 provides antecedent basis for "the combining means" in claims 35 and 36, and no amendments are necessary.

Applicants have amended claims 36-39 by changing claim dependencies so that "the calibrated wavelength optical signal" in claim 38 has appropriate

antecedent basis from claim 36, and has amended claim 40 to recite "a calibrated wavelength optical signal" as well as inserting "with" as suggested by the Examiner. Therefore the informality of claims 38 and 40 are corrected.

Finally Applicants have amended claims 43 and 44 to recite "the wavelength calibrator" (see claim 36) in lieu of "the calibration reference". Therefore the informality of these claims also are corrected.

3. The Examiner rejected claims 20-40 under 35 U.S.C. 103(a) as being unpatentable over Tanimoto et al and claims 43 and 44 as being unpatentable further in view of Cliche et al. Applicants respectfully traverse these improper and nonobvious conclusions by the Examiner.

In contradistinction to Applicants' claimed invention Tanimoto et al disclose an optical transmission characteristic measuring apparatus that has a tunable wavelength source **1** and a tunable wavelength spectroscope **6**, both being tuned to the same wavelength at the same time. At the optical input section **4** the received light from a device under test **15** or a reference source of known wavelength **22** is input to an attenuator **5**, the tunable wavelength spectroscope, a light detector **7** and an A/D converter **8** in sequence to provide digital data to a processor **12**, which also controls the respective wavelengths of the source and spectroscope in response to key inputs **9**.

Contrary to the Examiner's assertion, since the input light to the spectroscope is at the same wavelength as the source, the spectroscope does not act as a converting means to filter or convert a portion of an input DWDM multi-wavelength optical signal, i.e., an optical signal having a range of wavelengths, at a particular

wavelength to an electrical signal as recited in claim 20. Rather Tanimoto et al convert the single wavelength input optical signal to an electrical signal without any such converting/filtering effect. This is because the claimed invention is a monitoring system as opposed to a characteristic determining system as in Tanimoto et al. Applicants' claimed invention has no control over the optical source, whereas Tanimoto et al require control over the optical source. Claim 21 further indicates that the converting means is a narrow-band tunable bandpass filter, and claim 22 indicates that the converting means is an optical unit that receives the DWDM optical signal and provides the particular wavelength portion as an output.

With respect to claim 23 Applicants request that the Examiner provide a reference to support the position that "[I]t is well known to use electrical lowpass filters connected to photodetectors to stabilize and contain the detected signal." Also Applicants recite in claim 25 that in the beam deflection system "the optical signal . . . [is] subjected to multiple passes between the movable grating and the imaging element." This is not shown in the "Diffraction Grating Handbook". This reference does not show "multiple passes between the movable grating and the imaging element", but rather show a single pass from input to imaging element to grating to imaging element to output. Applicants' multiple paths includes more than one impingement upon the grating.

With respect to claim 27 Applicants request that the Examiner provide a reference to support the statement that "[I]t is well known in the art to use a dielectric optical filter to provide additional filtering of unwanted wavelength of light." Since the source and spectroscope of Tanimoto et al are tuned to the same wavelength, there would be no reason why one of ordinary skill in the art would include an optical filter

in the optical path between the imaging element and the grating. Even the reference source is a known wavelength rather than a range of wavelengths as in a DWDM optical signal.

With respect to claim 29 Tanimoto et al calibrate the system between the source and the spectroscope so there is no perceived need for a sensor to determine the angle of rotation of the grating in these elements. Again Applicants request that the Examiner provide a reference to support the position that "[I]t is well known in the art that sensors are used to determine the position of a rotating device." Applicants submit that there is no suggestion in Tanimoto et al that such a sensor is needed.

With respect to claims 30 and 33 Applicants request that the Examiner provide a reference for the use of a light source, reflecting surface and position sensor or incremental scale and detector as angular position sensors to support the position that "[I]t is design choice" to use such systems as angle detectors.

Likewise Applicants request that the Examiner provide a reference to support that "[I]t is well-known in the art to use drive motors and spring-mass arrays to physically rotate a component", as is recited in claim 32.

Applicants recite in claim 34 the mixing of the optical signal with a tunable reference optical signal as part of the converting means, in other words down-converting the optical signal to select the particular wavelength portion of the optical signal. Tanimoto et al neither teach nor suggest mixing or combining of optical signals – Tanimoto et al merely switch between optical sources (see switch **24**). In claim 35 Applicants further state selectively polarizing the tunable laser – the tunable reference optical signal – to produce two orthogonal components which are

combined with the optical signal. This is not equivalent to the polarizer of Tanimoto et al which selects any polarization (a single one) in order to make polarization dependent measurements of the device under test.

Claim 37 recites simultaneous irradiation of the photodetector by the optical signal and the polarized reference signal as the means of combining these two optical signals, and claim 38 further recites that the calibrated wavelength optical signal also irradiates the photodetector together with the other two optical signals. Since Tanimoto et al neither teach nor suggest mixing or combining of optical signals, these claims also are deemed to be allowable as being nonobvious over Tanimoto et al.

Claim 39 recites a first coupler for combining the optical signal and reference signal, while claim 40 recites a second coupler for combining a calibrated wavelength optical signal with one of the first two, with the result being combined with the other one in the first coupler. The Examiner does not even address this configuration in his remarks. Since Tanimoto et al do not combine optical signals, this configuration also is nonobvious to one of ordinary skill in the art.

Applicants note that the Examiner indicated that claims 41 and 42 contain allowable subject matter. Since Applicants consider the claims from which they depend to be allowable, these claims also are deemed to be allowable in their present form.

In view of the foregoing amendment and remarks allowance of claims 20-44 as amended is urged, and such action and the issuance of this case are requested. Should the Examiner maintain the rejection of these claims, entry of this amendment

is requested as placing the case in better form for appeal since it removes the informalities noted by the Examiner.

Respectfully submitted,

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